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EXAMINER

GODENSCHWAGER, PETER F

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/533,322	Applicant(s) EDER, HEINRICH	
	Examiner PETER F. GODENSCHWAGER	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 November 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13, 16-21 and 23-31 is/are pending in the application.
- 4a) Of the above claim(s) 23-31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 16-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Applicant's reply filed November 2, 2009 has been fully considered. Claims 1-13, 16, and 17 are amended, claims 1-13, 16-21, and 23-31 are pending, and claims 23-31 are withdrawn from consideration.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-13 and 16-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 1 recites that the "protection apron possesses design features which, when worn by a wearer, constrain the wearer to wear the protection apron in a such a manner that the first protective layer is farther away than the second protective layer form a skin layer of said wearer...". However, there is no support in the original specification for any specific or generic design features for constraining a user to wear an apron in a particular manner.

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Claims 1-13 and 16-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "constrain" in claim 1 is a relative term which renders the claim indefinite. The term "constrain" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is not clear in this case how one is to determine whether or not a person is constrained as it is not clear if Applicant means for the apron to merely be uncomfortable when worn a certain way, or to be physically impossible to be worn a certain way. For purposes of further examination, the term "constrained" is being given its broadest reasonable interpretation of capable of being worn either way.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 5-13, and 16-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lange (US Pat. No. 6,548,570) in view of Teleki (US Pat. No. 4,795,654).

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Regarding Claims 1, 5-7, 11-13: Lange teaches a radiation shielding material for radiation from 10 to 200 keV (equivalent to a 10 to 200 kV tube) comprising 12.5 weight percent rubber (matrix material), 52 weight percent of a Sn compound, 28 weight percent of a W compound, and 6.5 weight percent of a compound such as gadolinium oxide or cerium carbonate (Gd or Ce compounds) (2:24-30, and Example 2, 5:40-56).

Lange does not teach the composition as comprising multiple layers of different compositions where the layer more remote from a body being protected comprise predominantly elements having a lower atomic number, and the layer closer to the body comprises predominantly elements having a higher atomic number. However, Teleki teaches a radiation protective composition of multiple layers of differing compositions where one layer may comprise U and another Sn (1:16-28 and 3:28-35). Lange and Teleki are analogous art because they are concerned with the same field of endeavor, namely radiation protective materials. At the time of the invention, a person of ordinary skill in the art would have found it obvious to use the multilayers of Teleki with the composition of Lange and would have been motivated to do so because Teleki teaches that another layer may protect from secondary radiation emitted by a first layer (1:16-28). It is noted that in the apron rendered obvious, the layer comprising U will implicitly be capable being placed closer to the body than another layer, whether or not one is constrained to wear the apron in a particular way.

The Office recognizes that all the claimed physical properties are not positively taught by the references, namely that for claim 1, at 60 to 140 kV the lead equivalence is from 0.25 to 2.0 mm and for claim 11 that at 60-90 kV the lead equivalence is from 0.25 to 0.6 mm. However, the references when taken together render obvious all the claimed ingredients, process steps and

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process conditions. Therefore, the claimed physical properties would implicitly be achieved by the disclosed composition.

Regarding Claims 8-10: Lange teaches that the 6.5% of a compound such as gadolinium oxide or cerium carbonate may instead be any compound from the lanthanide series (loading material II of Example 2, 5:40-55), a series of elements that includes Yb, Tm, and Lu.

Regarding Claim 16: The layer taught by Lange comprises 52% Sn (Example 2).

Regarding Claim 17: The layer taught by Lange comprises 52% by weight of Sn and 6.5% by weight of compound such as cerium carbonate (Example 2). This is equivalent to a 58.5% by weight portion of the composition, where in that portion, Sn is present in 89% by weight and cerium carbonate is present in 11% by weight.

Regarding Claim 18: While the references Lange and Teleki do not instruct a use of the layers relative to a body, the claim is to a composition and not to a method of using the composition. As such, in the composition rendered obvious, the layer with higher atomic weight (and therefore lower X-ray fluorescent yield), will implicitly be capable being placed closer to the body than another layer.

Regarding Claim 19: Lange does not teach the composition as comprising at least three layers wherein the middle layer is comprised of elements having a lower atomic number than the two outside layers. However, Teleki teaches using a thin layer of aluminum in between layers such as tin (1:60-2:1). Lange and Teleki are analogous art because they are concerned with the same field of endeavor, namely radiation protective materials. At the time of the invention, a person of ordinary skill in the art would have found it obvious to use the triple layer of Teleki in the composition of Lange and would have been motivated to do so because Teleki teaches that

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the Al layer improves the absorption properties of the structure by dispersing the X-ray or gamma radiation (1:65-2:1). Furthermore, by definition, the middle layer will be in between layers that are both further away and closer to any body than the middle layer.

Regarding Claim 20: Lange does not teach the composition as comprising a weakly radioactive layer embedded between two non-radioactive protective layers. However, Teleki teaches using a thin layer of aluminum (a non-radioactive layer) alternating with layers such as uranium (a weakly radioactive compound) (1:38-40 and 60-2:1). Lange and Teleki are analogous art because they are concerned with the same field of endeavor, namely radiation protective materials. At the time of the invention, a person of ordinary skill in the art would have found it obvious to use the triple layer of Teleki in the composition of Lange and would have been motivated to do so because Teleki teaches that the Al layer improves the absorption properties of the structure by dispersing the X-ray or gamma radiation (1:65-2:1).

Regarding Claim 21: Lange further teaches that the compounds are grains (granular) (3:15-26).

Lange does not teach the specific particle size requirement of claim 21. However, it is well known in the art to change result effective variables such as grain size distribution (See MPEP 2144.05). At the time of the invention, a person of ordinary skill in the art would have found it obvious to optimize the grain size distribution of Lange and would be motivated to do so because Lange teaches that "grain size distribution and particle form are important parameters for achieving the desired flexibility with the maximum amount of filler material" (1:33-35).

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Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thiess et al. (US Pub. No. 2004/0262546) in view of Teleki (US Pat. No. 4,795,654).

Thiess et al. teaches a lead-substitute radiation absorbing composition comprising 20-40 weight percent of rubber (matrix material) with the remaining weight percent being radiation absorbing particles ([0015]). With regards to the radiation absorbing particles, Thiess et al. teaches that they may comprise 40-60 weight percent Sn, 20-30 weight percent W, and 20-30 weight percent Bi ([0025]). At 22 weight percent rubber, these ranges give weight percents relative to the entire composition of: 31.2-46.8 for Sn, and 15.6 to 31.2 for W and Bi, anticipating the ranges of claims 1-4.

Thiess et al. does not teach the composition as comprising multiple layers of different compositions where the layer more remote from a body being protected comprise predominantly elements having a lower atomic number, and the layer closer to the body comprises predominantly elements having a higher atomic number. However, Teleki teaches a radiation protective composition of multiple layers of differing compositions where one layer may comprise U and another Sn (1:16-28 and 3:28-35). Thiess et al. and Teleki are analogous art because they are concerned with the same field of endeavor, namely radiation protective materials that may be used in clothing. At the time of the invention, a person of ordinary skill in the art would have found it obvious to use the multilayers of Teleki with the composition of Thiess et al. and would have been motivated to do so because Teleki teaches that another layer may protect from secondary radiation emitted by a first layer (1:16-28). It is noted that the claim is to an apron and not to a method of using the apron. As such, in the apron rendered obvious,

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the layer comprising U will implicitly be capable being placed closer to the body than another layer whether or not one is constrained to wear the apron in a particular way.

Response to Arguments

Applicant's arguments filed November 2, 2010 have been fully considered but they are not persuasive.

Applicant states that the application as originally filed specifies that the protective apron is worn such that the first protective layer is farther away than the second protective layer from a skin layer of the wearer on Pg. 14, Ln. 24 to Pg. 15, Ln. 15 of the original specification.

Applicant argues that this fully supports the amendment that the "protection apron possesses design features which, when worn by a wearer, constrain the wearer to wear the protection apron in a such a manner that the first protective layer is farther away than the second protective layer from a skin layer of said wearer...”, and that the original disclosure evidences a requirement that the apron have certain features to ensure that it be worn one way. Applicant further cites Cusick et al. (US Pat. No. 4,766,608) to show that such design features are well-known in the art of protective aprons. However, Applicant's original specification gives no mention that the apron have any specific or generic design features that constrain or limit how the apron may be worn.

A general statement that the protective apron *should* be worn such that the first protective layer is farther away than the second protective layer from a skin layer of the wearer merely instructs one of ordinary skill in the art on how to *use* the apron. It does not support design features that *prevent* one from using it in another way. With regards to Cusick et al., the fact that design

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features such as those disclosed by Cusick et al. are known in the art does not change the fact that specific or implicit support for such features are not found in the original specification.

With regards to Teleki, Applicant argues that Teleki teaches the opposite arrangement of layers of the instant claims. However, by its very nature an apron may be worn with either side closer to one's body as an apron has two sides, both of which may be placed next to one's body. Therefore a layer comprising U will implicitly be *capable* of being placed closer to the body than another layer. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. *If the prior art structure is capable of performing the intended use, then it meets the claim.* Regardless of whether an apron is generally considered to be worn in either of two directions, it is still *capable* of being worn in either of two directions. As the claims are not to a method of wearing the apron but to the apron itself, the prior art structure meets the claim as it is capable of being worn in either of two directions.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PETER F. GODENSCHWAGER whose telephone number is (571)270-3302. The examiner can normally be reached on Monday-Friday 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571) 272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo/
Supervisory Patent Examiner, Art Unit 1796

/P. F. G./
Examiner, Art Unit 1796